Innovators and Early Adopters of Television*

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The "age of television" began for the general public in the United States twenty years ago when the Federal Communications Commission approved commercial telecasting as of July 1, 1941. In the two decades that followed, particularly in the period after World War II, the adoption of this technological innovation occurred at such a rate that television supplanted radio and the film as the most important medium of popular culture. In 1946 there was one television set for every 3,800 homes in the United States.[1] Today, according to a U. S. Census report, nine out of ten American homes are equipped with at least one set, and there are now more homes with multiple sets than there are homes without sets.

When these statistics on the extent of adoption are coupled with those of use, the potential import of this medium looms even larger. Audience studies by commercial rating services show that there has been a gradual increase in the average number of hours of television viewing per day since the early 1950's. In 1953, television viewing across the nation averaged 4 hours and 43 minutes per home per day.[2] By 1961, the national average reached 6 hours and 4 minutes per home per day.[3]

Impressive as such figures are in establishing the ubiquity of television, the full social significance of this vast audience exposure is only gradually emerging through the careful work of researchers such as Himmelweit and her associates in England[4] and Schramm and his associates at Stanford.[5] Schramm's study, the first major American research into the uses and consequent socializing effects of television, starts by establishing the fact that the average American child, from age three to sixteen, spends as much time watching television as he spends in school. The study then provides a rich fund of information concerning the individual and social antecedents and consequences of such exposure. The extension of this kind of research could vastly modify the tone and content of testimony that a Lazarsfeld might give when he appears before a congressional committee, as he did in 1955, to explain "why is so little known about the effects of television on children?"[6] Furthermore, such research efforts, focusing as they do on what Elihu Katz has called the "uses and gratifications" approach to the media[7]—which does not ask the question "What do the media do to people?" but rather the question, "What do people do with the media?"—might also make a Berelson more optimistic about the state of communication research than he was in 1959 when he pronounced that it was withering away.[8]

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[1] Source: NBC report.

[2] *The Nielsen Newscast,* 8:1, February, 1959.

[3] *Television '61,* A. C. Nielsen.

[4] Hilde T. Himmelweit, A. N. Oppenheim and Pamela Vince, *Television and the Child,* London: Oxford University Press, 1958.

[5] Wilbur Schramm, Jack Lyle and Edwin B. Parker, *Television in the Lives of Our Children,* Stanford University Press, 1961.

The research to be dealt with in this paper directs Katz's question of "What do people do with the media?" to that early phase of the total mass communicative process where people are confronted with the decision of whether or not to have *anything to do* with the medium in the first place. We direct our attention to this point of adoption because there is evidence to suggest that the pattern of decision here, influenced as it is by continuing social factors, could become the incubator of the later and more complex effects of television viewing.

Rural sociologists,[9] and more recently students of mass communication,[10] have devoted considerable research to deciphering the communicative elements and mapping the social pathways that lead to the adoption of an innovation.[11] Despite the speed at which some innovations apparently spread through a population, not all people adopt it at the same time. In the complex diffusion and decision-making process that starts with the establishment of awareness of the innovation and ultimately leads to some degree of adoption, there are leaders and laggards, and there are even some people who hold out to the very end. A few studies have been concerned with identifying and comparing the characteristics of early and late adopters of an innovation[12] or of comparing adopters with nonadopters.[13] Some of these comparisons have been made in a context where one innovation, or one class of innovations, is traced through a single social structure;[14] other comparisons have been made from two different studies, each employing a distinct innovation in a distinct social structure—as when Katz compared the early and late adopters of seed corn among farmers with the early and late adopters of a new drug among doctors.[15] The latter effort led Katz to conclude that what was needed "is a comparative study of innovations which will trace different innovations, variously classified, as they proceed through given social structures."[16] The present research is concerned with a related variant of this problem—the tracing of the *same* innovation through *various* social structures for the purpose of observing the emergence from these structures of the early and therefore the key adopter categories.

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[6] Paul F. Lazarsfeld, "Why is So Little Known About the Effects of Television on Children and What Can Be Done?" *Public Opinion Quarterly*, 19 (Fall, 1955), pp. 243-251.

[7] Elihu Katz, "Mass Communications Research and the Study of Popular Culture," *Studies in Public Communication*, 2 (Summer, 1959), pp. 1-6.

[8] Bernard Berelson "The State of Communication Research," *Public Opinion Quarterly*, 23 (Spring, 1959), pp. 1-6.

[9] A convenient source for a synthesis of much of this work is Everett M. Rogers, *Social Change in Rural Society*, New York: Appleton-Century-Crofts, Inc., 1960, Chapter 14, pp. 396-422.

[10] A series of reports on the study of the adoption of new drugs by doctors authored by Elihu Katz, James Coleman, and Herbert Menzel afford the best illustrations of sociological work in this area of mass communication. See, e.g., "The Diffusion of an Innovation Among Physicians," *Sociometry*, 20 (December, 1957), pp. 253-270; or "Social Processes in Physicians' Adoption of a New Drug," *Journal of Chronic Diseases*, 9 (January, 1959), pp. 1-19. See also, Charles Winick, "The Diffusion of an Innovation Among Physicians in a Large City," *Sociometry*, 24 (December, 1961), pp. 384-396.

[11] The mutual interests of these two traditions of research is discussed in Elihu Katz, "Communication Research and the Image of Society: The Convergence of Two Traditions," *American Journal of Sociology*, LXV (March, 1960), pp. 435-440.

[12] Everett M. Rogers, "Categorizing the Adopters of Agricultural Practices," *Rural*

When a major technological innovation first appears, there is a period of active definition or norm formation in which the relationship of the innovation to the established features of the environment is worked out. Following the introduction of the innovation, the producer begins to share this definitional process with an ever-growing number of consumers. In the case of television, this means that the mass communicator begins to take his audience into account, either directly or indirectly. The early adopters of television may be important, then, not only because they are instrumental in influencing others to become adopters, but *also* because this influence could include broader definitions of the meaning of television, how it should be used by whom and when, content preferences, etc. These definitions may be directed not only at the remaining potential adopters, but may also be available for perception by the mass communicators themselves.

That is, it would appear that early users have an unexcelled opportunity to be influential not only in the diffusion, but also in the definitional process that accompanies the introduction of an innovation. Some circumstances for the possible exercise of this influence are illustrated in the following observation from an early study of "Videotown" in the United States:[17]

Sociology, 23 (1958), pp. 345-354. See also, Everett M. Rogers, *Characteristics of Agricultural Innovators and Other Adopter Categories*, Wooster, Ohio: Ohio Agricultural Experiment Station, Research Bulletin 882, May, 1961, 66 pp., and Everett M. Rogers and L. Edna Rogers, "A Methodological Analysis of Adoption Scales," *Rural Sociology*, 26 (December, 1961), pp. 325-336.

[13] Neal Gross, "The Differential Characteristics of Acceptors and Non-Acceptors of an Approved Agricultural Technological Practice," *Rural Sociology*, 14 (June, 1949), pp. 148-156.

[14] For an example where the comparison is made between knowers and non-knowers of an unusual news event see: Nahum Z. Medalia and Otto N. Larsen, "Diffusion and Belief in a Collective Delusion," *American Sociological Review*, 23 (April, 1958), pp. 180-186.

[15] Elihu Katz, "The Social Itinerary of Technical Change: Two Studies on the Diffusion of Innovation," *Human Organization*, 20 (Summer, 1961), pp. 70-82.

[16] *Ibid.*, p. 82.

[17] From a summary in *Agrisearch*, 1:2, July, 1955.

> The few people who owned TV sets during 1948-50 enjoyed a special kind of social prestige that was often burdensome. They could expect relatives, friends, acquaintances, neighbors—and even strangers—to drop in often and early and to stay late. This early period also was the time when TV was considered a commercial asset. Almost every bar and grill in town looked on a TV set as an essential attraction for the evening trade.

To the extent that such conditions contribute definitional opportunities, as well as diffusion possibilities, it becomes even more interesting to examine the characteristics of those persons who accept an innovation early and to try to gain some understanding of the selective processes which led to their pioneering behavior. To do this it is first necessary to specify *how early* in the total process the innovating behavior must be manifest before it qualifies for consideration.

FORMULATING THE PROBLEM AROUND INNOVATORS AND EARLY ADOPTERS

The major effort to conceptualize a system of adopter categories and to clarify it by some research has been done by Everett Rogers in his work on the communication of agricultural technology.[18] Rogers asserts that adopters of an innovation are on an early-late continuum with regard to the time of adoption, but that for convenience the continuum may be marked off into five categories each of which has arbitrarily been assigned a percentage of the maximum adoption of a given innovation. The *innovators* are defined as the first 2½ per cent to adopt a new idea or practice. In turn, they are followed by the *early adopters,* the next 13½ per cent, who are followed by the *early majority,* 34 per cent, the late majority, 34 per cent, and finally by the *laggards* who are the last 16 per cent to accept an innovation.

The assignment of the particular percentages to each position on the time continuum suggests that the diffusion in the adoption process roughly follows a form of the normal curve. Furthermore, the characterization of the five categories,[19] supported by references to the literature on the adoption of agricultural technology, clearly indicates that the time continuum also represents other well-ordered continua. Thus, as you move from early to late adopters you also move from the *highest* to the *lowest* in social status, income, education, size of farm, specialization of enterprise, extra-community social contacts, formality of the sources of information, and in attitudes toward scientific experimentation. Only on *age* is there a reversal in the magnitude of the ordering, with this variable extending from the youngest to the oldest as you move from innovators to laggards, and only in the degree of *personal influence,* or adoption leadership, is there a discontinuity in the ordering, as here the second category, the *early adopters,* are higher in this regard than any other category including the *innovators.*

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[18] Rogers, *op. cit.*
[19] *Ibid.,* p. 412.

The model of the adoption process that emerges is one where information and influence flow from outside the social system through the innovators and early adopters and then in well-ordered multiple steps through the ever-widening funnel of a status hierarchy.

Apart from the issue of the general utility and applicability of this model, about which Rogers makes no claims, this formulation is valuable for our present purposes because it focuses attention on the first-stage of the adoption process and suggests that it is a more complex and differentiated one than heretofore had been suspected. Rogers acknowledges that *innovators* might possibly influence the *early adopters,* but he emphasizes that the *early adopters* exert more adoption leadership than any other adoption category. The explanation offered for this is that the *innovator,* embedded in cosmopolitan traits, does not concern himself about fitting smoothly into the social relationships of the local area, whereas the *early adopter* is closely integrated into the neighborhood and the community.

We may now ask, in what ways might the innovator types and the early-adopter types influence the form of a given diffusion-adoption process? The most direct influence would, of course, occur if there was a differential distribution of the number of persons exhibiting the traits of either one or the other of these types in a given social structure. It is also conceivable that, quite apart from the relative number of initiators of either type, the impact of the quality of their action, the context of their status location, and similar factors could continue to influence the form of the diffusion-adoption process. But, to the extent that one or the other of these types would dominate the initiation of an innovation, regardless of by what means, what would the contrasting result be? Again we turn to the work of Katz and his associates for a possible lead.[20]

The contrasting characteristics attributed by Rogers to the innovators and the early adopters form a pattern very similar to the characteristics that Katz, in his studies of the adoption of a new drug by doctors,[21] uses to account for two distinct diffusion processes. The process of diffusion was different for integrated doctors who had the characteristics comparable to elements in Rogers *early-adopter* type as compared to isolated doctors who had traits similar to the Rogers *innovator* type.

A suggestion that may be drawn from this comparison is that when a social structure consists of a population whose members mainly resemble *early-adopter* types, then the innovation should spread earlier through a social structure and the resulting diffusion curve would be of the accelerating form which represents a "snowballing" of interpersonal processes where adoption proceeds as a function of the proportion who have already adopted.

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[20] Katz, *op. cit.*

[21] See source in footnote 15 above.

On the other hand, to the extent that a social structure is characterized by *innovator* types, the result would be an individual process, uninfluenced by interpersonal communication, represented by a linear line of growth resulting from some stimulus operating at each time period so as to influence a constant, not an accelerating, proportion of those who adopt. The constant rate of adoption may occur for two reasons. First, the relevant social structure may not be well-integrated. Second, although the social structure may be well-integrated, the early adopters in that network may react indifferently to the definition of the innovation provided by its adoption by the innovators. In either case the rate of adoption undergoes no significant acceleration.

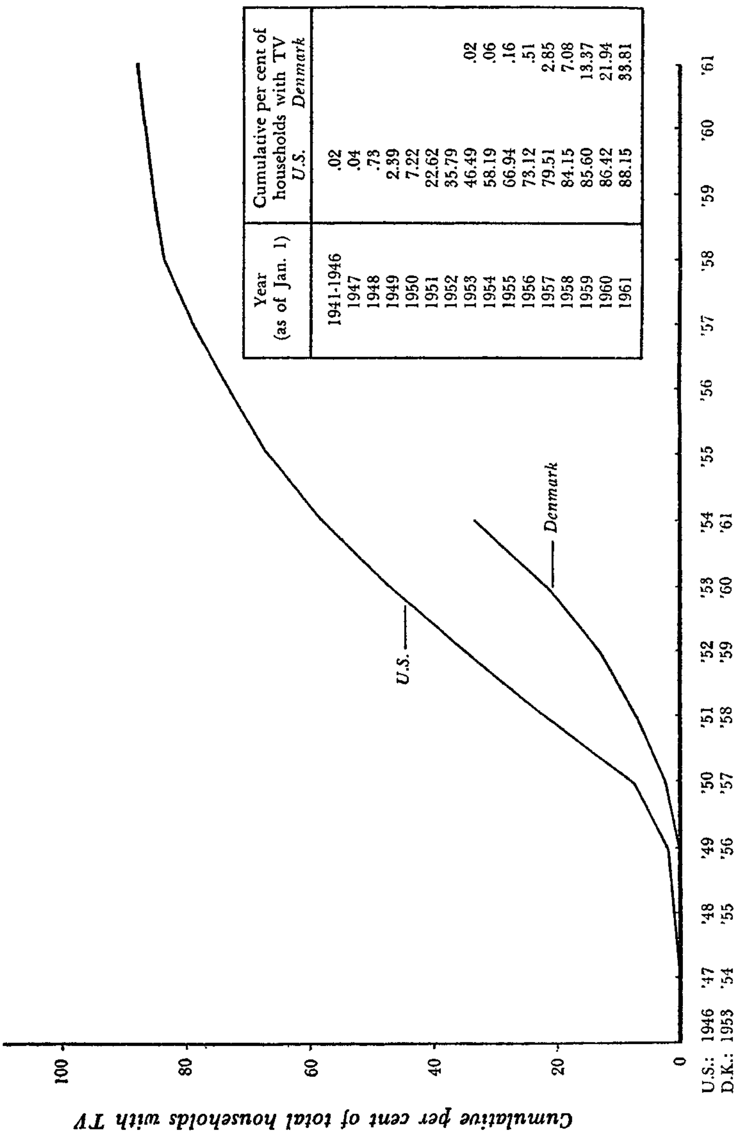
Where does this line of speculation lead? Whereas Katz related the shape of diffusion curves to the interpersonal versus individualistic processes that generated them, we would now like to relate them to the initial stage of an adoption process where innovators and early adopters operate. The questions for exploration become: (1) Do variations in adoption curves reflect variations in the relative role of innovators and early adopters? (2) In what ways is this relative role evidenced and illuminated by differences in the characteristics of people who are innovators and those who are early adopters? (3) In what ways does this relative role predict the form and the extent of the remaining diffusion pattern?

To explore these questions we turn to some data concerning the adoption of television in the United States and Denmark.

TELEVISION ADOPTION IN THE UNITED STATES AND DENMARK

What was the pattern of diffusion and who were the innovators and early adopters of television in the United States?

There are at least three reasons why it is difficult to answer this question with precision: (1) A systematic record of individual purchasers of sets at specified times is not available. Estimates of adoption, based on over-all production or sales records, or based on sample surveys, provide data classified only by broad categories of social indicators with very little cross-classification attempted; (2) After television was introduced in 1941, two major events interrupted the natural diffusion of the innovation—World War II, which stopped the growth for a period of about five years, and the F. C. C. "freeze" on new station permits from 1948 to 1952, which limited the growth on the national scene by confining telecasting to certain metropolitan areas; and (3) On the national level, detailed figures are not available from the early period of adoption permitting an identification and comparison of innovators and early adopters.



Year (as of Jan. 1)	Cumulative per cent of households with TV *U.S.*	*Denmark*
1941-1946	.02	
1947	.04	
1948	.73	
1949	2.39	
1950	7.22	
1951	22.62	
1952	35.79	
1953	46.49	.02
1954	58.19	.06
1955	66.94	.16
1956	73.12	.51
1957	79.51	2.85
1958	84.15	7.08
1959	85.60	13.37
1960	86.42	21.94
1961	88.15	33.81

Fig. 1. Television Adoption, United States and Denmark

Despite these limitations, some approximate answers to the question can be offered. The over-all pattern of the adoption of television in the United States extending from the period from 1941-46, where less than one per cent of American households had television, to 1961, where more than 88 per cent had television, is shown in Fig. 1. Here we see that the adoption of television in the United States started with a long period of innovation, the length of the period perhaps being influenced by the restraints noted earlier, followed by a sharp acceleration suggesting the pattern in which the characteristics of the early-adopter types were manifest. Clearly, the growth pattern is not the type one would expect had the process of decision been reached apart from social influences. This being the case, what evidence do we have bearing on the characteristics of early adopters?

All of the available American studies concerning the early diffusion of television point to the same two factors as being consistently related to the early adoption of the innovation. Those two factors are: (1) economic, and (2) family size. As Leo Bogart observes in his review of these studies,[22] ". . . television is more often found in homes where there are children under 18, where family income is higher, and where the head of the house has an occupation of higher status." From the first available reports in 1949 consistently up through the entire growth period, families with higher income and families with children have had a significantly higher proportion of television ownership than others.[23] Unfortunately the data are not in a form that permits a distinction to be made between innovators and early adopters, nor have they been tabulated in such a way as to permit an accounting of the possible interaction of the variables.

The finding that higher status persons are more likely to be represented in the stage of innovation and early adoption than are lower status persons is consistent with the formulation offered by Rogers. But Fig. 2 suggests that this American finding may not apply beyond our borders. The most comparable data that could be developed for a status comparison in the Danish and American adoption of television required using something other than total national figures.

The American data in Fig. 2 are from the first four years that television was studied in "Videotown," an Eastern city of 40,000 population that has been a laboratory for continuing television audience studies since 1948.[24] Here early television adoption is compared for upper-class and lower-class American households.[25] Clearly, the upper class started adoption at a higher level and maintained a consistently greater rate throughout the early period.

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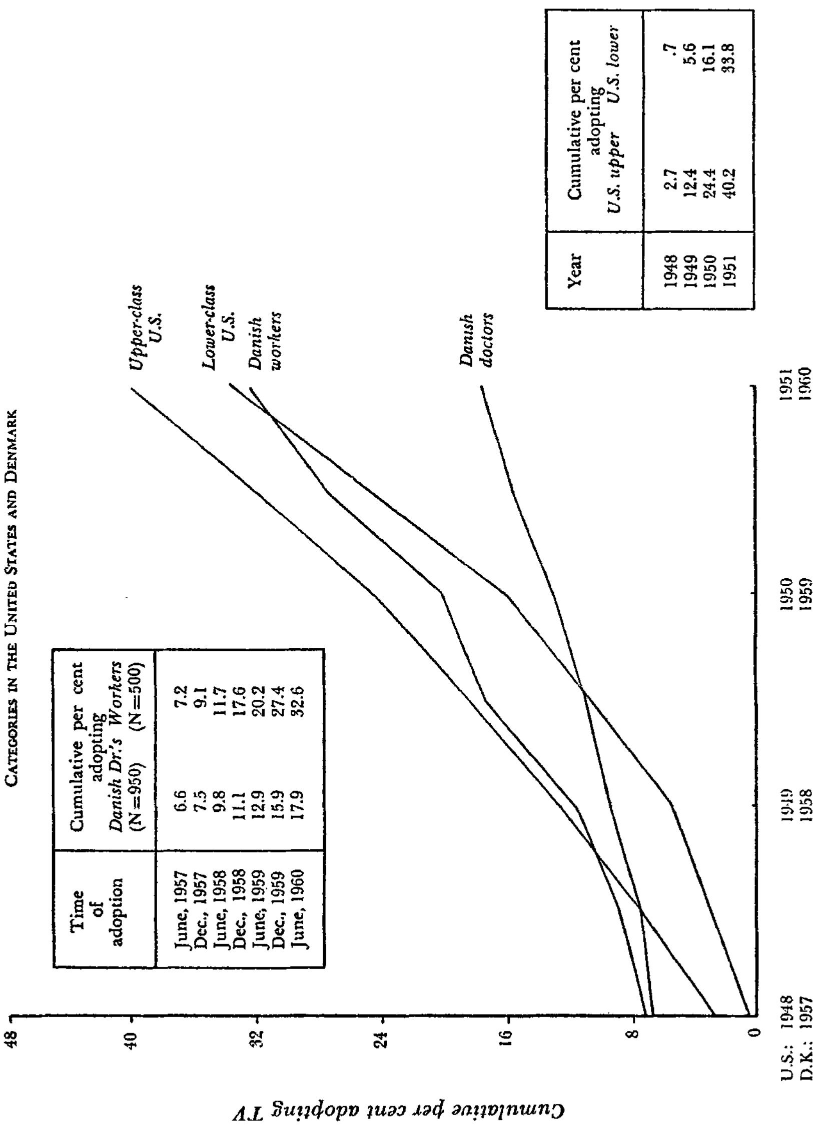
[22] Leo Bogart, *The Age of Television,* New York: Frederick Ungar Publishing Co. 1956, see especially pp. 10-19.

[23] One exception to the general findings concerning status may be found in a study of 150 New Haven, Conn., families by Saxon Graham, "Cultural Compatibility in the Adoption of Television," *Social Forces,* 33 (December, 1954), pp. 166-170.

[24] Research sponsored by Cunningham and Walsh, Inc., and reported in a seven-volume *Videotown* series. Data used here as reported in *Agrisearch,* 1:3, August, 1955.

The data from Denmark on the same Fig. 2 do not show this pattern.

FIG. 2. TELEVISION ADOPTION BY UPPER- AND LOWER-CLASS CATEGORIES IN THE UNITED STATES AND DENMARK



Time of adoption	Cumulative per cent adopting	
	Danish Dr.'s (N=950)	*Workers* (N=500)
June, 1957	6.6	7.2
Dec., 1957	7.5	9.1
June, 1958	9.8	11.7
Dec., 1958	11.1	17.6
June, 1959	12.9	20.2
Dec., 1959	15.9	27.4
June, 1960	17.9	32.6

Year	Cumulative per cent adopting	
	U.S. upper	*U.S. lower*
1948	2.7	.7
1949	12.4	5.6
1950	24.4	16.1
1951	40.2	33.8

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[25] During the first 3 years, 1948-50, the study was based on a television census of the city. By 1951, the number of TV sets was so great, more than 5,000, that the interviewing was changed to a probability sample of every fifth television home.

Here the upper-class households (Copenhagen doctors) and the lower-class households (Copenhagen unskilled workers) began adopting television at about the same level, but the accelerating curve of the lower-class adoptions soon outdistanced the more linear growth pattern of the upper-class households.[26] The shape of the adoption curves for the Danish population suggests that doctors are reacting more individually to the adoption of television than are workers. Despite the doctors' relative financial ability to make such an investment, considerable resistence is apparently manifest. This is all the more remarkable in the present case because, being older and more likely to be married than the workers, the doctors were also more likely to have children (25 per cent of the doctors and 57 per cent of the workers had no children).

While there is a reversal by social class in the *extent* of television adoption in Denmark and the United States, there is one suggestion of consistency in Fig. 2 that merits attention. The shape of the curve for the upper-class groups in both countries appears to be more linear in form, while both the lower-class curves have marks of acceleration. With due caution for the limited number of points on the curve, there is a suggestion here that the decision processes in the early phases of diffusion are *similar* within the same social class in both countries.

There are, of course, fundamental differences in the organization and operation of Danish and American television. As may be seen in Fig. 1, television started twelve years later in Denmark than in the United States. As in the United States, telecasting started in the largest city and did not spread to other sections of the country until later. Television is a government monopoly in Denmark, advertising is not permitted in the programming, and only fourteen hours of programs are presented each week. In some parts of the country, however, Swedish or German stations (both East and West German) can be received to supplement this limited fare. To own and operate a television set, an annual fee, amounting to about $10.00, must be paid by each set owner. This means that there is available in the Danish Broadcasting Corporation a set of records, each recording the *time of adoption,* the name, the address, and in most cases the occupation of the license applicant. By gaining access to these records, we were able to check on the dates of television adoption on an individual basis for each of the nearly 1,000 doctors in the Copenhagen area, and a sample of 500 unskilled workers selected from the union roster.[27] These records were also used in the study of television adoption in a town near the Danish-German border, where, coupled together with census records for individual households, data were developed in an effort to analyze more closely the patterns of innovation and early adoption.

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[26] Doctors were selected as representatives of the "upper" class and unskilled workers as representatives of the "lower" class through reference to a recent and important Danish study on the subject. With a national sample rating 75 occupations on a 5-point scale ranging from 1.00 (high) to 5.00 (low) the doctors were tenth from the top with a mean rating of 2.00, while the unskilled workers were second from the bottom with a mean rating of 4.67. See, Kaare, Svalastoga, *Prestige, Class and Mobility,* London: William Heinemann, Ltd., 1959, Table 2.5, pp. 80-81.

TELEVISION ADOPTION IN BORDERTOWN

The Research Setting. Bordertown, a community of 7,300 persons, is located about three miles north of the present Danish-German border. The town has a history dating back about 800 years. During the last 100 years or so, the town has been in a territory that has been alternately under the political control of Germany and Denmark. In 1920, the town returned to Danish control after having been under the Germans since Bismarck's activities in 1864. Since that time, Bordertown has become a military and civil administrative center for the southwest region of the country—a place to build and defend the Danish culture where many Danes perceived it as being most threatened.

Two characteristics stand out from this background: (1) As a result of its administrative complexion as a border town, the community has a heavy civil-service white-collar employee representation. In 1950, one-third of the heads-of-households were in this category; and (2) the Germans are now a minority group constituting about 22 per cent of the total population, with another 2 per cent estimated to be neutral, leaving a majority of 76 per cent of the population with dominant Danish ties.

These two points concerning the occupational and ethnic structure of the community have an interconnection. From the point of view of the minority, their inability to gain entry into the local civil-service is perceived as discrimination. From the point of view of the majority, this practice in the border zone is defined as a matter of obvious national necessity.

In general, however, a great degree of tolerance and accommodation has been worked out in most of the areas of activity in the community. This is thoroughly documented in an extensive study of majority-minority relations completed by Professor Svalastoga under UNESCO auspices just prior to the present investigation of television adoption.[28]

Svalastoga's study in general suggests that the over-all trend is toward a shrinking of the minority in numbers and an increase in the forces of assimilation into the Danish as opposed to the German culture insofar as distinctions between the latter remain salient. A possible communicative counterforce in this regard is television. German television is popular in Bordertown. German television broadcasts more programs than Danish television. Furthermore, by such means as letters to the editors of Danish newspapers, the German television contest is praised as being superior in quality to the Danish programs. Danish authorities in Copenhagen have expressed concern in the press over the possible long-range cultural impact of German television in the border zones. In such a setting of minority-majority relations, then, we turn to the adoption of television in the area.

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[27] Appreciation is expressed to Fru Gudrun Schramm and her staff, of the DBC, for assistance with a laborious clerical task. Additional analysis of the doctor-worker data is in progress with the assistance of Erik Manniche and Walter Weiss of the Institute for Sociological Research at the University of Copenhagen.

[28] Kaare Svalastoga, *Where Europeans Meet: A Sociological Investigation of Bordertown,* Copenhagen, 1960.

Research Procedure. The data for the study of television adoption in Bordertown were collected from three sources:

(1) The names and addresses of all television owners in Bordertown up through December, 1959, which included the first four years of television, were secured from the DBC license Bureau in Copenhagen. By this means, the time of adoption for each household was also observed. In all, 603 households out of the total of 2,216, or 27.2 per cent had adopted television during the period under study.

(2) Since neither the license data nor any other official source could provide an indication of ethnic status, the names of the television households were submitted to two expert informants, each a leader of their respective national movements, and each a long-term resident of the town. Independently, the Danish and the German judge indicated whether each name on the television list was a member of the minority, the majority, or the neutral group. These judges agreed on 84.6 per cent of the cases. Omitting the small proportion, less than one per cent who were agreed on as neutral, only those cases on which there was agreement on affiliation with the majority or minority are used in the present analysis.

(3) The original census schedule for each household in Bordertown for the most recent national census (1955) was secured from the Census Bureau. From this schedule, the head of the household was determined and information on his occupation, age, marital status, place of birth, and changes in residence were obtained along with information on family size. The specific occupational definition, plus occupational situs, was used to classify the head of each household into the status categories employed in the large Danish study of social class by Svalastoga.[29]

The dependent variable in this study is time of adoption, which will be dealt with here in two categories—*innovators* and *early adopters.*

Danish *innovators* are defined as those which were among the first

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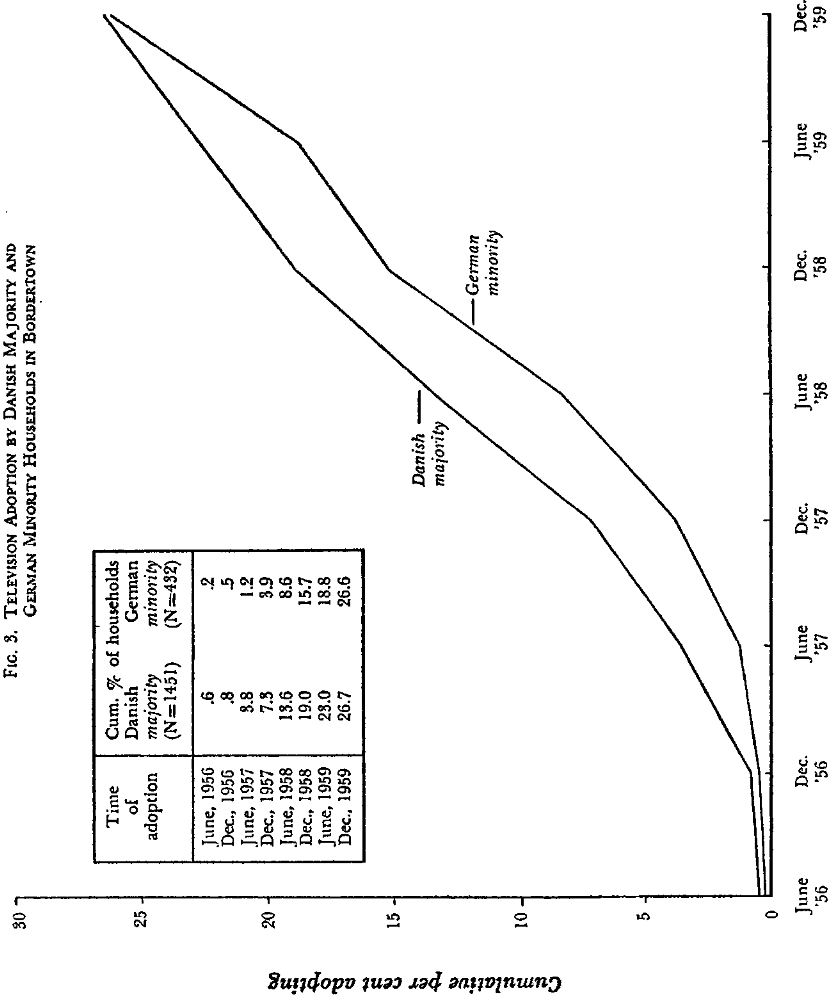
[29] Svalastoga, *op. cit.*

4 per cent of the Danish families in Bordertown to adopt television, and Danish *early adopters* are those which were among the group to adopt between the 4 and 27 per cent marks. Relative to their own group, German innovators and early adopters were defined by the same percentage divisions.

Innovators and early adopters, as defined above, are in the present analysis then classified by three independent variables: (1) ethnic status, (2) occupational status, and (3) family type—adult families versus families with children. To be able to directly compare inno-

FIG. 3. TELEVISION ADOPTION BY DANISH MAJORITY AND GERMAN MINORITY HOUSEHOLDS IN BORDERTOWN



Time of adoption	Cum. % of households Danish *majority* (N=1451)	German *minority* (N=432)
June, 1956	.6	.2
Dec., 1956	.8	.5
June, 1957	3.8	1.2
Dec., 1957	7.3	3.9
June, 1958	13.6	8.6
Dec., 1958	19.0	15.7
June, 1959	23.0	18.8
Dec., 1959	26.7	26.6

vators and early adopters by these variables, tables of percentages will be presented where the distribution in raw figures has been converted to a percentage of the number of families of that type *estimated* to be in the total population of Bordertown.[30]

The Social Structure(s) of Bordertown. There is evidence in Bordertown of the existence of two parallel, occasionally intertwined, but usually distinct social structures. The Danes and the Germans each have their own social and political organizations, their own separate church services, their own schools and their own meeting places. Partly because the Danes include a significantly larger proportion of later in-migrants, there is some residential segregation in the community. The evidence suggests that the major point of interaction between the two groups is in the conduct of regular commercial activities.

Fig. 3, showing the adoption curves for television by the majority and the minority, may be interpreted by suggesting that the Danish and German social structures each have their own channels for communication through which influence can be diffused.

Both the Danish and the German curves show periods of acceleration. The German period, however, started later and accelerated faster. Although the German curve is less regular, perhaps because of the smaller number of cases, it appears to be continuing to rise. The Danish rate of adoption, on the other hand, shows signs of slowing down.

With these observations in mind, we can now probe for reason why such differences might occur. What factors could explain what we see concerning the pattern of early diffusion in Fig. 3? Two interpretations seem possible. First, there may be basic differences in the Danish and German social structures. Second, the social structures may be similar but reactions in them to television may have been different as the innovation began to be adopted.

To explore the first possibility, we may examine Table 1 which is a compilation of comparative characteristics of the Danes and the Germans taken from the larger study of Bordertown by Svalastoga.[31] Here we see that the Danes are higher than the Germans on social status, upward social mobility, community participation, interest in politics, and educational attainment. They are also younger than the Germans and more apt to have children.

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[30] For this analysis, households which did not fall into one of the four status groups were omitted—pensioners. In addition, households for which we did not have ethnic identification were omitted. Since 15 per cent of the adopters could not be identified by the judging procedure, 15 per cent was also assumed to be the best estimate of the population parameter. Estimates of the number of households which would fall into each of the categories in Table 2 were then taken on the basis of the values for occupational status and family type as reported in Table 1 from the Svalastoga study. His estimates of the Danish-German split were also used.

[31] Svalastoga, *op. cit.*

TABLE 1

A Comparison of the Danes and Germans in Bordertown by Selected Traits (from Svalastoga)

POPULATION CHARACTERISTICS	*Danes* (Per cent)	*Germans* (Per cent)
Occupational Status:		
I (High)	21	11
II	33	34
III	25	31
IV (Low)	19	19
Family type:		
With children	68	53
Without children	32	47
Participating in three or more community organizations	33	13
Reading newspapers	96	94
Expressing some or great interest in politics	43	27
Education beyond grade school	41	30
Age (over 45 years)	36	68
Upward social mobility (changing from lower fathers to upper sons)	30	19

In general, these traits correspond to those suggested by Rogers as characterizing a population from which *innovators* might emerge. It would follow that Danes would be more likely to be innovators than Germans. This appears as a plausible explanation for the initially higher rate of adoption of television among Danish families.

The picture is less clear when we ask about the *early adopters* who presumably follow the innovators. In terms of Rogers' suggestion, and in terms of television adoption data from the United States, we might expect from the comparison of characteristics in Table 1 that the *Danes* would have a greater frequency of early adopters than the Germans would in Bordertown because, for example, the Danes tend to be younger and have more education. On the other hand, insofar as status is taken as the key factor, our Copenhagen data on doctors and workers would suggest that a larger proportion of early adopters would appear among the *Germans* in Bordertown since lower status is associated with higher adoption rates.

With the present data we can now look more closely into the diffusion process for a possible resolution of this apparent contradiction in

TABLE 2

*Danish and German Innovators and Early Adopters in Bordertown by Family Size and Social Status**

(Per cent of the total population of each family size-status group who adopted television during the innovation or the early adopter time period.)

	SOCIAL STATUS			
	Upper and upper middle	*Middle*	*Lower middle*	*Lower*
DANES				
Adult families				
Innovators	1.3	5.7	4.3	5.7
Early adopters	6.5	18.9	20.7	25.7
Families with children				
Innovators	3.7	7.5	4.2	2.1
Early adopters	23.0	29.0	45.3	34.9
GERMANS				
Adult families				
Innovators	0.0	7.4	2.0	10.0
Early adopters	17.6	14.8	6.1	6.7
Families with children				
Innovators	0.0	11.5	1.8	0.0
Early adopters	10.0	60.7	26.8	41.2

* Following Svalastoga, U & UM=Strata 1-5; M=Stratum 6; LM=Stratum 7; L=Strata 8-9.

the preliminary findings. This can be done because we can distinguish between innovators and early adopters while controlling for the major variables highlighted in the literature as being significant in the early phases of diffusion—*status* and *family size.*

Innovators and Early Adopters in Bordertown. In Table 2 television adopters in Bordertown are classified as innovators or early adopters, and the results are controlled for presence of children in the household and for occupationally-based social status ranging in four steps from upper to lower.

For middle class members of both ethnic groups, the likelihood of being an innovator is increased by children. For lower class members of both ethnic groups, the likelihood of being an innovator is reduced by children (probably as a result of financial considerations). Almost regardless of class and ethnicity, however, children increase the likelihood of one's being an early adopter.

The significance of the presence of children may also be seen in the following compilation which gives the size of the average family for Danish and German innovators and early adopters:

	Mean Household Size
DANES	
Innovators	2.9
Early Adopters	3.6
GERMANS	
Innovators	3.0
Early Adopters	3.7

From these figures on family size, we see that the difference between ethnic groups is slight, but the contrast between innovators and early adopters is marked with the latter having the larger families.

Social status appears to have a different kind of influence on the emergence of innovators versus early adopters from these populations. Consider first the case of the *innovators.* The data here indicate little support for the general proposition that innovators are most likely to be drawn from the highest status level. For both Germans and Danes, Table 2 shows that the innovators are most likely to come from the second category—the middle status group when there are families with children. For the families without children, however, the innovator is as likely to come from the lower class (the unskilled workers) as from any other class whether he be German or Dane. Perhaps the most important observation that can be noted in this regard is that *innovators appear on all status levels* for the Danes and for five out of the eight possibilities for the Germans.

Apparently, innovation is not a single stream of influence trickling down from Olympian status heights, but just as has been discovered for the important case of opinion leadership, innovators operate on all status levels. Perhaps the innovator is just a special case of the opinion leader category.

Finally, consider now the case of the *early adopters.* For the Danes, regardless of family type, the data in Table 2 suggest that with a decrease in social status there is an increase in the probability for the emergence of early adopters. Thus there is a greater percentage of early adopters in the last two than in the first two status categories. The situation is almost reversed for the Germans, where there is a greater concentration of early adopters in the first two status categories for adult families and a tremendous concentration in the second category, the middle status group, for German families with children.

In general, again, we observe that early adopters appear on all status levels.

CONCLUSION

With regard to the early phases of adoption these propositions stand out from this analysis of innovator and early-adopter types:

(1) The effects of children are more uniform throughout various social structures than are the effects of status.

(2) You *cannot* predict where innovators might emerge on the basis of status, ethnicity or family size.

(3) You *can* predict where early-adopters will emerge on the basis of status and family size.

Further research should try to answer the following questions raised by these findings:

(1) Is the effect of children on a family's tendency to fall into the innovator or early adopter category specific to the case of television, or does family size also have an important bearing on processes of cultural diffusion *generally?*

(2) In a country which still has the major process of television adoption ahead of it yet (e.g., India) will large-scale sociometric studies show that innovators really function like opinion leaders in getting others to adopt this new artifact, or do they behave more like social isolates, with early adopters having greater influence on rates of subsequent adoption and patterns of use?